

**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>C12Q 1/68</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/24940</b> <b>(43) International Publication Date:</b> 4 May 2000 (04.05.00)
<b>(21) International Application Number:</b> PCT/US99/25370 <b>(22) International Filing Date:</b> 28 October 1999 (28.10.99)  <b>(30) Priority Data:</b> 60/106,038 28 October 1998 (28.10.98) US 60/150,493 24 August 1999 (24.08.99) US  <b>(71) Applicants:</b> VYSIS, INC. [US/US]; 1300 Woodcreek Drive, Downers Grove, IL 60515-5424 (US). THE UNITED STATES OF AMERICA as represented by THE SECRETARY DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; National Institutes of Health, Office of Technology Transfer, Suite #325, 6011 Executive Boulevard, Rockville, MD 20852-3804 (US).  <b>(72) Inventors:</b> KALLIONIEMI, Olli-P.; 1083 Grand Oak Way, Rockville, MD 20852 (US). MÜLLER, Uwe, Richard; Apartment 2A, 418 Sunset Drive, Corning, NY 14831 (US). SAUTER, Guido; Schönbeinstrasse 40, CH-4003 Basel (CH). KONONEN, Juha; 1920 Valley Stream Drive, Rockville, MD 20851 (US). BARLUND, Maarit; Ilmarinkatu 19 B19, FIN-33500 Tampere (FI).  <b>(74) Agent:</b> FASSE, J., Peter, Fish & Richardson P.C., 225 Franklin Street, Boston, MA 02110-2804 (US).		<b>(81) Designated States:</b> CA, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> CELLULAR ARRAYS AND METHODS OF DETECTING AND USING GENETIC DISORDER MARKERS  <b>(57) Abstract</b>  A method is disclosed for rapid molecular profiling of tissue or other cellular specimens by placing a donor specimen in an assigned location in a recipient array, providing copies of the array, and performing a different biological analysis of each copy. The results of the different biological analyses are compared to determine if there are correlations between the results of the different biological analyses at each assigned location. In some embodiment, the specimens may be tissue specimens from different tumors, which are subjected to multiple parallel molecular (including genetic and immunological) analyses. The results of the parallel analyses are then used to detect common molecular characteristics of the genetic disorder type, which can subsequently be used in the diagnosis or treatment of the disease. The biological characteristics of the tissue can be correlated with clinical or other information, to detect characteristics associated with the tissue, such as susceptibility or resistance to particular types of drug treatment. Other examples of suitable tissues which can be placed in the matrix include tissue from transgenic or model organisms, or cellular suspensions (such as cytological preparations or specimens of liquid malignancies or cell lines).		